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ABSTRACT

This publication is the fourth in a series of reports on educational innovation in Asia. In describing the educational situation in Korea, the author has organized his discussion into two broad subject areas. Section 1 is concerned with innovations in national educational policies, while section 2 focuses on educational innovations at the institutional level. Throughout the study, the author's emphasis is on the origin and diffusion of educational innovation, rather than on the novelty of particular innovations. Several statistical tables are included which summarize the growth in the number of schools, students, and teachers in Korea from 1963-1972. In addition, there is a bibliography of publications relevant to the study of educational innovation in general and Korean education in particular. (JG)

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Experiments and innovations in education No. 12

Asian series

Educational innovation in the Republic of Korea

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Development Institute
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Study prepared
for the Asian Centre
of Educational Innovation
for Development

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Preface

The fourth study in the series of national inventories of educational innovation in Asia¹ presents the situation in the Republic of Korea. It has been compiled by Mr. Yung Dug Lee, Director of the Educational Development Institute (Seoul) who, in his approach to the subject, has divided the innovatory processes into two broad categories: innovations in national educational policies and innovations at the institutional level.

The Secretariat, in expressing its thanks to the author for the detailed account of more than a decade's effort to introduce the far-reaching changes which have led to both an increased provision and an improved quality of education in Korea, wishes to remind readers that his views are not necessarily those of Unesco.

1. The others are, in order of publication: Wong, Ruth. *Educational innovation in Singapore*. Paris, The Unesco Press, 1974 (Experiments and innovations in education, No. 9)
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Introduction

The Republic of Korea has been active in the past decade in introducing educational innovations as have all other Asian countries, but the Korean people's belief in education as the key to national development as well as individual prosperity has been reinforced even through such tragic experiences as the Japanese colonization (1910-45) the division of national territory (1945), and the Korean War (1950-53). Naturally, during the past 25 years, the improvement of the educational system has been a prime public and government concern. The modern phenomena of Korean education is characterized by rapid expansion and a desire to improve the quality of learning.

The accompanying tables¹ indicate the changes during the past 10 years in the number of Korean schools, students and teachers. About 17 per cent of the total government annual budget has been allotted to the Ministry of Education since 1966, whilst approximately 5 per cent of the gross national product has been assigned for public educational expenses.

An analysis of educational innovations places the major focus on the process of diffusion and policy making rather than their novelty. Two broad categories emerge on the basis of differences in their scope, approaches and level of application: (i) innovations in national educational policies, and (ii) innovations at institutional level. The division is not clear because some of the ideas in national programmes have actually on the one hand originated from and were developed by the pilot programmes at the institutional level while, on the other, pilot institutions were designated by the Ministry of Education on the basis of its own policy and programmes.

1. Tables have been adapted from: *Annual survey of education, 1972*. Ministry of Education, Republic of Korea, pp. 24-29.

Table 1. Number of schools by year

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Elementary schools	4835	5004	5125	5274	5418	5601	5810	5961	6085	6197
Middle schools	1114	1165	1208	1251	1314	1420	1463	1608	1794	1866
High Schools*	660	692	701	735	781	840	861	889	898	942
Junior colleges**	56	57	61	59	56	55	59	56	63	72
Colleges, universities and graduate schools	75	98	107	111	117	123	128	135	137	143
Miscellaneous schools***	856	737	714	668	737	764	697	659	674	630
Total	7696	7753	7916	8038	8423	8803	9018	9308	9651	9850

* Includes both general and vocational high schools.

** Includes junior technical colleges, junior vocational colleges, junior colleges, and junior teachers' training colleges.

*** Includes nurses' training schools, civic schools, higher, civic schools, trade schools, higher trade schools, and special schools.

Table 2.1 Number of students by year

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Elementary schools	4,421,541	4,726,227	4,941,345	5,165,490	5,382,500	5,548,577	5,622,816	5,749,301	5,807,448	5,775,880
Middle schools	665,760	666,630	751,341	821,997	911,938	1,013,494	1,147,408	1,318,808	1,529,541	1,686,363
High schools	364,313	399,617	426,531	434,820	441,946	481,494	530,101	590,382	647,180	729,783
Junior Colleges	18,955	23,196	29,079	35,686	37,641	37,379	39,880	39,688	44,408	49,611
Colleges, universities and graduate schools	107,929	116,163	109,485	136,054	128,909	129,151	139,085	153,054	162,669	172,613
Miscellaneous schools	110,853	94,052	99,584	100,059	109,714	121,569	131,256	133,794	128,365	132,451
Total	5,689,351	6,025,955	6,357,365	6,694,106	7,012,648	7,331,664	7,610,546	7,985,027	8,319,611	8,546,701

Enrolment rate for the age-level population:

Elementary school — over 95%

Middle school — 52%

High school — 30%

College and University — over 7%

Table 3. Number of teachers by year

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Elementary school	72,116	75,455	79,164	84,927	89,277	92,530	96,358	101,095	103,756	105,672
Middle school	16,943	17,339	19,067	19,801	21,678	24,476	27,437	31,207	35,938	39,888
High school	12,083	13,036	14,108	14,636	15,241	16,688	18,186	19,854	22,315	24,506
Junior colleges	805	891	1,195	1,456	1,463	1,649	1,836	2,058	2,376	2,632
Colleges, universities and graduate schools	3,095	4,194	5,470	6,078	6,045	6,764	7,447	7,944	8,194	9,090
Miscellaneous schools	4,354	4,253	4,673	4,627	5,094	5,573	5,486	5,611	5,649	5,874
Total	109,396	115,168	123,677	131,525	138,798	147,680	156,750	167,769	178,228	187,662

I. Innovations in national educational policies

1. *Upgrading of elementary school teacher training institutions*
There are two types of pre-service teacher training institutions in Korea: (i) junior teachers' colleges for the training of elementary school teachers, and (ii) four-year colleges of education for the training of secondary school teachers.

Until 1962, elementary school teachers were trained, it was thought, inadequately, in the three-year normal schools at senior high school level, and it was firmly believed that by upgrading the entry age from high school level to college level somewhat, more mature teachers would be available. As a consequence, the normal schools moved towards an elevation in their status.

In January 1954, the plan for upgrading normal schools was adopted at a conference but the plan was expedited by an oversupply of elementary school teachers in 1955. Thus, in 1957, the Special Council on Education, the Minister of Education's advisory committee, recommended colleges providing two years of teacher training. However, this plan could not have been initiated until the 1960's because of the inability to revise various laws and regulations and administrative procedures.

When the Rhee government fell in 1960, the new democratic regime took steps to reorganize two colleges of education - Kwangju and Pusan - into junior teachers colleges which became pioneers in reform. In September 1961, this movement was legally approved through the enactment of the Special Law of Education. In March 1962, the government upgraded normal schools and established nine junior teachers colleges. By 1972, 16 junior teachers colleges had been established in Korea and that year saw 5,675 graduates.

Junior teachers colleges' curricula consist of required courses which are divided into (i) the general education courses including national language, history of civilization, philosophy of democracy, problems in Korean society, natural sciences, mathematics, English, and physical education and (ii) the professional education courses which comprise foundations of education, child development and instruction, curriculum, school administration,

student teaching, and instructional methods for elementary school subjects. In addition to the required courses there are also elective courses which offer a variety of subjects including mathematics, social studies, natural sciences, physical education, music, fine arts, educational research, foreign language, audio-visual instruction, and school library management.

Teachers' college students are not only exempted from tuition and other fees but are given government scholarships on condition they teach for two years upon graduation. This enables many able but needy students to enter the teaching profession.

The upgrading of teacher training institutions has had a great impact on the educational development of Korea: firstly, it made a considerable contribution to the academic improvement of elementary school teachers. For example, approximately 38 per cent (39,524 out of 103,756) of elementary school teachers attended school for 14 or more years in 1971 while in 1964 only 13 per cent (10,450 out of 75,455) had 14 years' schooling.

Secondly, academic circles were encouraged to establish graduate schools of education which could train new teachers' college personnel in addition to educational administrators, secondary school teachers with advanced qualifications, and educational researchers. The first graduate school of education was founded at Seoul National University in 1963.

Thirdly, it facilitated the move to establish a four-year teachers' college system for the training of elementary school teachers. In fact, in 1962 the upgrading of normal schools into junior teachers' colleges had been considered as an intermediate step towards the ultimate goal of establishing a four-year teachers' college system and this writer's opinion is that, since today's curriculum of a two-year teachers' college is only half developed and gives neither a decent liberal education nor sufficient professional training to prospective teachers, it should be again upgraded. Consequently, 're-upgrading' elementary teacher training institutions into three or four-year colleges was one of the key policies of the 1972-86 long-range comprehensive educational plan which was prepared in 1970 by the National Council. The major problem at present is to overcome financial and manpower constraints in implementing this new programme.

2. Enforcement of the preliminary college entrance examination system

In August 1968 the Ministry of Education (MOE) decided to institute the preliminary college entrance examination system for the dual purposes of preventing unqualified high school graduates from entering colleges and of restraining the chaotic expansion of private universities and colleges.

Similar systems had been enforced in 1962 and 1963 by the military government which took over the democratic regime in May 1961. The military powers attempted a number of drastic social reform programmes including the initiation of a national qualifying examination for college entrance. However, this was discontinued after 1964 mainly because: (i) the programme had been implemented without regard for public opinion and preparatory work; and (ii) the programme had met objections from the people involved because of its excessive strictness in terms of admittances - the number of students who passed the examination was approximately equal to the admission capacity of universities and colleges. Consequently, the examination was not implemented between 1964-68.

During this period, however, the government and the public felt that the country needed a qualifying examination - they were particularly critical of the profit-making orientation of some private universities. Their reckless expansion in terms of student enrolment was seen as fulfilling university managerial aims of collecting more money through students' tuition fees.

In May 1968, Minister Kwon of the Ministry of Justice was re-appointed Minister of Education - his first appointment was in 1965. During this tenure of 13 months, Minister Kwon enforced several innovative administrative programmes for higher educational reform - such as the enactment of the college student number ceiling law, and enforcement of the national B.A. registration system. When he assumed office again it was anticipated that strong administrative measures would be passed to cure the chronic ills in the educational scene. In October 1968, therefore, Minister Kwon announced the MOE's decision to carry out three major reforms: (i) enforcement of the preliminary college entrance examination system, (ii) abolition of the middle school entrance examination, and (iii) proclamation of the Charter of National Education. Thus in 1969 the qualifying examination became again an annual event.

However, the preliminary examination was no more than a preparatory examination and students who passed must again perform successfully in the regular entrance examination administered by

the university or college.

In the preliminary examination administered for the first time in December 1968, six major subjects in the high school curriculum were included - national language (Korean), social studies, mathematics, natural sciences, English and one of the technical or vocational subjects. In 1972, national history was added to the list and this may reflect recent government policy emphasizing 'national identity'.

There remained, however, the problem that the number of students passing the preliminary examination far exceeded the number of places available in the institutions of higher education in the country. However, the situation was improved in 1972 by the recommendation of the Evaluation Team of professors attached to the Prime Minister's Office. A special arrangement was made for students applying for art courses to be exempted from the qualifying examination.

The impact on Korea's higher and secondary education is largely the result of the new system, firstly, it made a qualitative contribution to the improvement of higher educational institutions - better qualified students in terms of entry level.

Secondly, it stimulated private universities to revise their enrolments because the number of legally qualified applicants sharply fell with the enforcement of the examination.

Thirdly, it contributed to the improvement of local and lower class universities in terms of students' academic standards. All applicants for colleges and universities were required to have at least the minimum level of academic maturation to pass the preliminary examination.

Fourthly, an improvement in the educational content in high schools has been made since the implementation of this new system. Until 1968, too much emphasis was given to particular subjects believed to be highly pertinent to the university entrance examination - i.e. English and mathematics - thus neglecting the time-allotment schedule prescribed by the national authority. This gradually diminished as the preliminary examination virtually covered all subjects offered by the high school curriculum.

3. Abolition of the middle school entrance examination

The MOE decision to abolish the entrance examination system for middle schools in October 1968 was a major step in Minister Kwon's educational reforms.

Educational policies concerning entrance examinations, particularly for the middle schools, have been the object of public criticism and discussions since the establishment of the Korean Government in 1948. The frequent change of policies on entrance examinations has been characterized as 'inconsistent', and the primary responsibility for this rests with the MOE. Strong public interest in the examination system put pressure on the government for frequent changes but various revisions made after 1948 were unable to solve the problem thoroughly, and tended to become interim measures to cope with the confusion and harsh public criticism. In this sense, the abolition of the entrance examination was an 'educational revolution'.

An analysis of the circumstances which led to this decision reveals the following situation.

Competition in the entrance examinations became more and more severe after the Korean War and appeared to have reached its peak in the 1960s with both educational administrators and the general public showing a deep concern in the years after 1965. To trace its origins is complicated, but the term 'entrance examination hell' was used to indicate the vehement competition, particularly for middle schools. Amongst the unfavourable effects of the examination-orientated education system were such aspects as excessive competition which resulted in the implementation of abnormal or distorted curricula. When the competition was at its peak, the time allocation of curricula was quite abnormally unbalanced: national language, science, mathematics and social studies were considered to consist the whole of the school curriculum by many teachers and parents. Music and art education or practical science only received a nominal time allotment and teachers prepared students by instructing them to memorize what they were taught in preparation for objective tests.

Education was not considered as a means of fostering creative thinking, voluntary activities or the intellectual development of children. To reduce the children's burden in preparing for their entrance examination, the authorities instructed schools to test applicants only within the contents of elementary school textbooks. Some elementary schools even blacked out the pages to encourage students to memorize them fully.

Severe competition stimulated parental zeal, too. 'Skirt wind' denoted this perverse fanaticism, especially that of mothers. Middle schools in each province undertook a joint preparation of

test items in 1965, but disputes arose concerning the correct answers and some of these even resulted in law suits.

Parents had to bear a heavy financial burden when they had to provide children with expensive extra lessons and this in turn threatened their home economy and caused various social problems.

The most urgent matter was the severe deterioration in children's health. Few children in the sixth grade of elementary school were able to sleep for more than six hours because of the need to prepare for the examination, and in consequence they suffered from various diseases and exhibited abnormal growth characterized by small physical frame, lack of vitality, weak sight, neuroses, anaemia, etc.

Their healthy emotional development and full character development suffered accordingly. Children were emotionally distressed under the strain of winning in the competition and they gained distorted values by believing that preparation for the entrance examination was the aim of education and admission to a so-called 'first class school' would fulfil life's objective. The difference between the first and third or fourth class schools were widened immensely through public discrimination, meanwhile the prestige of elementary schools were becoming established according to the percentage of graduates admitted to the first class middle schools. The entrance examination for the middle schools thus adversely affected the proper objectives of compulsory education and made elementary education insubstantial.

In recognition of the need for strong measures to root out these disorders, the MOE decided in July 1968, with President Park's approval, to abolish the entrance examination for middle schools. In the same month, Minister Kwon announced at a press conference the plan entitled 'The Lottery and School Precinct System with No Examination for Middle School Admission.' The programme for its implementation was prepared as follows:

- (i) Establishment of new school precincts on the basis of administrative or existing elementary school precincts. Applicants should enter the schools in their precinct without tests according to the lottery system.
- (ii) Fourteen first class middle schools in Seoul would be gradually reorganized into high schools until 1974.
- (iii) The new system would take effect throughout the country in three years on an incremental basis: in Seoul from 1969;

in large cities, like Pusan, Taegu, Kwangju, Inchon, and Chonju from 1970; and all other localities from 1971.

The plan showed that the lottery for admission to the middle schools was to be conducted under the supervision of elementary school principals. It also prescribed that the existing competitive examination would continue during the transitional, and at the same time, the MOE announced details of the programme to begin in Seoul from 1968. The nine administrative Kus were divided into seven school precincts. The Minister indicated that in order to accommodate all applicants, he had a further plan to establish new schools to increase the number of classes. In November 1968, the Education Law revision bill for the abolition of entrance examination for the middle schools was passed by the National Assembly.

The 1968 plan had been carried out according to its original schedule and its implementation resulted in various impacts on Korean elementary and secondary education.

Firstly, extra lessons for the elementary school students were abolished. As a result: (i) the curriculum was corrected; (ii) parents' financial burden was lightened; (iii) children's health was reported to have improved; and (iv) undue emotional pressure on the children was lifted.

Secondly, the introduction of the lottery and school precinct system equalized the level of middle schools in terms of students' academic standards.

Thirdly, it stimulated the movement for the improvement of the entrance examination system for high schools. In actual fact, the 'hell' had not really been eliminated, but it had been 'upgraded' to the high school level. Similar disorders arose there, and at present various measures including a 'school report system' are being considered by the MOE.

Fourthly, it facilitated discussions and research for the reform in instructional methods. Since the introduction of the lottery and school precinct system, middle schools had to admit both outstanding and poor students and this caused some problems with regard to classroom instruction. Consequently, innovations in teaching methods to meet the new situation, for example, mastery learning, project for under-achievers in middle schools, etc., were developed by some educational research institutions.

4. *Formulation of a long-range comprehensive educational plan*
The Council for Long-Range Comprehensive Educational Planning (CLEP) began formulating their plan in 1970, however, premature trials of educational planning had been undertaken in the early 1950s. Since the most urgent educational problem now was to achieve full compulsory education, the main objective of the plan was to reach the target percentage of school attendance with projections on the number of teachers, facilities and finance.

In the early 1960s it was realized that long-range comprehensive educational plans had to be made. In 1962, 'The Five-Year Plan for Educational Reconstruction' was prepared to link the educational sector with the First Five-Year Economic Development Plan. This was the first attempt to look at the feasibility of targets in the light of financial resources, but its scope was limited to the planning of compulsory education. Plans for other areas were no more than an aggregate of solutions for urgent problems such as capacity control of the classes and the projection of financial demands. Very little attention was paid to (i) the links between educational objectives and socio-economic developments; (ii) the problem of co-ordination among the programmes of each school level; and (iii) the plan's feasibility in the light of financial demands and resources. These defects arose through lack of co-ordination among related ministries and also from the lack of sufficient expertise.

As a remedy, in 1965 a long-term projection for education was undertaken with the technical assistance of the Regional Advisory Team using a financial resources approach. The plan consisted of the projections of students and financial demands and resources, and some arrangements for co-ordination between them, according to school levels for the next 20 years. Very little attention was paid to the manpower problem, and no project plans for implementation were prepared.

With this experience behind them, together with the atmosphere of that time, especially in the field of economic planning, a tentative long-term educational plan was formulated in 1966 by the MOE. This plan was based on the techniques used by the Unesco advisory team together with a manpower approach and was prepared under a special concern of Minister Kwon. The exercise, however, finished for the most part in the office-desk drawers of the MOE. The reasons for its failure were:

- (i) Sub-plans were not integrated together into the general plan.
- (ii) In determining related variables and targets and in projecting future trends, expertise and results from broad surveys were not accessible to the planners.
- (iii) Implementation or evaluation processes were not considered sufficiently.
- (iv) Necessary conditions for the plan's self-improvement and the planning process were not provided.

The 1970 plan was produced by the Council under the Prime Minister, and since the larger part of this project in terms of innovations in national educational policies was centred on the institution building process of the CLEP, this paper focuses on this process.

Although CLEP had been officially instituted in January 1969, the idea had been of quite long standing, and had developed from endeavours of university scholars in 1965 to establish a national institute for long-term educational planning.

In December 1967, the Director of the United States Operations Mission to Korea (presently, USAID/K) advised educational authorities of the need for over-all educational reform in view of the crisis situation in Korean education. In January 1968, President Park gave instructions to study the need for the organization of an advisory council both on over-all educational policies and of long-term comprehensive plans on a nation-wide basis.

In his Congressional Policy Address of September 1968, the President also stressed the importance of: (i) attaining consistency in educational policies; (ii) improving manpower development systems; and (iii) maximizing the cost-effectiveness of educational investment. He also promised to institutionalize a long-term comprehensive educational plan to attain these goals. Thus, in October 1968 a task force was organized to take charge of the preparatory work for a planning institute.

Although strong political support was given by President Park, the substantial leadership in terms of operational level was provided by Minister Kwon who saw the need for the establishment of CLEP on the following grounds:

Firstly, as Minister of Education, he realized the need for machinery which would be instrumental in the stabilization of educational policies. Criticism prevailed at that time on the

'incoherence' and 'discontinuity' of the educational policies of the past two decades. One example was that the Korean Government had 18 Ministers of Education during the 20 years since its liberation from Japanese rule. Policies changed with each minister. Minister Kwon intended to perpetuate his guidelines as long-lasting government policies through the institutionalization of a long-term comprehensive plan.

Secondly, the prevalence of planning activities in other government ministries was a strong stimulus to the MOE. After the military revolution in May 1961, the government began to exert every effort to achieve economic growth. The Economic Planning Board (EPB), the first-priority ministry which took charge of economic development planning, was established in July 1961 and the First Five-Year Economic Development Plan, 1962-66, was implemented largely with successful results. In addition, the Ministry of Science and Technology (MOST) was established in April 1967 and immediately formulated its own 20-year projection of manpower demand and supply for the period 1967-86. The Office of Labour also gave some stimulus to the MOE with its own Five-Year Plan for Vocational Training.

The Presidential Ordinance of the Council for Long-Range Comprehensive Educational Planning was proclaimed in November 1968 and the task force's preliminary report was published at the end of the year. This recommended part of the organizational format of the planning institute together with guidelines for the planning process.

Finally, CLEP was established in January 1969 as an advisory organization under the Prime Minister.

It took almost two years to prepare the final draft of the plan which took the following seven steps (some overlapping of the time schedules were unavoidable):

Phase I - Preparatory work, October 1968 - April 1969

Preparatory study by the task force

Organizing CLEP - General Council, Expert Committee, etc.

Goal setting for plan formulation

Designing the planning process

Conducting opinion survey

Liaison formation with related ministries

Phase 2 - Background analysis I, March 1969 - June 1969

Trend analysis and prospect formation for national development according to the fields of economy, population, manpower, society and culture, science and technology, and politics and administration.

Phase 3 - Background analysis II, May 1969 - August 1969

Analysis of present status and problems in education

Functional analysis of:

- (i) Idea and objectives of Korean education
- (ii) Historical background
- (iii) Educational finance
- (iv) Educational administration
- (v) Educational expenditure
- (vi) Curriculum
- (vii) International trends in educational planning
- (viii) Present status of research institutes
- (ix) Preservice and inservice training system of government and private organizations
- (x) Analysis of opinion survey results for educational planning

Special research on curriculum and educational finance

Organizing projection committee

Phase 4 - Formulation of long-range comprehensive educational plan, July 1969 - December 1969

Formulation of:

- (i) Over-all plan
- (ii) Sector plan
- (iii) Strategic tasks

Phase 5 - Preparation of strategies and continuous development plan, December 1969 - February 1970

Review of the tentative plan of strategies

~~Conference discussing the tasks for plan development~~

Phase 6 - Synthesis and review of the plan, January 1970 - March 1970

Preparation of the report (draft plan)

Arrangement of the related data

Phase 7 - Revision and finalizing, March 1970 - August 1970

Seminar and public hearings for the discussion of the draft plan

Revision and finalizing

The plan draft was completed in August 1970. Minister Hong, who succeeded Minister Kwon in April 1969, provided full support and leadership to bring the CLEP's work to completion. Minister Hong maintained that a medium-range plan (five years) ought to be prepared as an executive plan of the long-range educational plan. As a result, the Educational Development Plan, 1972-76, which is supposed to be the first medium-range educational plan, was formulated by the MOE's medium-range planning team in July 1970. With this plan the team tried to prepare executive programmes for the implementation of major policies of the long-range plan according to related bureaus and offices of the MOE.

In July 1971, the CLEP underwent what was called 'developmental dissolution' with the proclamation of an educational policy-making council. Most of the key policy-makers did not realize the need for institutionalization of the CLEP and accordingly, the two plans — the Long-Range Comprehensive Educational Plan and the Educational Development Plan — lost their validity. However, the two plans are still used as major reference sources by MOE officials, and in this respect there is no doubt that their value as policy guidelines for the MOE is going to be maintained for many years to come.

The impact of this experience in planning was that firstly, the idea of planning and long-term projection, a field belonging mainly to 'economists' during the early 1960s in Korea, has permeated into the field of education. Evidence of this change is found in the plans for local and sub-system levels of education, such as the Educational Development Plan of Seoul Special City, 1972-86; the Demand and Supply Plan for Elementary and Secondary School Teachers, 1972-86, prepared by the Korean Educational Development Institute for MOE policy makers; the Overall Development Plan of Seoul National University, etc.

Secondly, it has brought changes within the norms of the central system of educational administration with regard to its functional differences. One example is the conceptual transformation that has developed with regard to the expected role of the MOE from that of a power-centre with executive authority into that of a planning and advisory organization for both officials and the public in general. MOE officials are becoming increasingly concerned about research and planning functions together with the recognition of the importance of expertise and technology.

Thirdly, it has facilitated institutional arrangements for educational reform. An example is the Korean Educational Development Institute (KEDI) which was established in August 1972 for conducting research and implementation of over-all reform of elementary and secondary education.

5. Proclamation of the Charter of National Education

As an index of national education, the Charter of National Education was proclaimed by the President in December 1968.

Since the establishment of the Third Republic after the military revolution in May 1961, Korea achieved considerable progress in national construction and modernization with the successful implementation of the First Five-Year Economic Development Plan. Later, however, top government policy makers came to recognize the importance of the 'human factor' as well as the physical aspects of economic growth in achieving the mission of 'national revitalization.' The people were, as they perceived them, in need of creating a new character orientated towards active participation in the battle for national development, not only with individual creativity and enthusiasm but also with a combined national effort. They also believed that the strong will and diligence of the people underlied economic prosperity, and that the *elan* for national rebirth sprang from the reformation of national spirit.

President Park urged the development of national vitality, and offered guidelines for a way of life as well as education through his messages and addresses. In this context, too, in January 1968 he gave a direction to the Minister of Education to prepare a Charter of National Education, and work began in May when Minister Kwon moved back to the MOE. In June, the MOE formed a preparation committee with 40 eminent scholars and discussions began on the main principles of the charter; the committee also collected reference materials from overseas as well as from domestic sources. They then selected seven expert members for each of the seven fields of natural history, political science, sociology, economics, law, education and philosophy to prepare individual research papers for consideration by the committee. Two educational philosophers synthesized and arranged the individual research papers as basic material, and in early July, the drafting committee was organized with two senior philosophers. After examining the basic material, the committee members began drafting the charter, which was completed by 20 July.

A deliberation committee, composed of 44 people from academic circles, journalists, businessmen and politicians, was organized

on 20 July and its first meeting was held on 26 July under President Park. Concurrently, large numbers of round-table conferences and public hearings were sponsored by universities, news agencies and boards of education in order to collect ideas and opinions from all walks of life including students, teachers, and the public in general. Meanwhile, the drafting committee worked on the wording of the charter. The first revised draft underwent six revisions before it was finalized.

In accordance with the decision of the deliberation committee, the charter was transferred to the legislature for its approval, and on 26 November the National Assembly approved it unanimously. Finally, the test was proclaimed by the President on 5 December 1968 as follows:

The Charter of National Education

We have been born into this land, charged with the historic mission of regenerating the nation. This is the time for us to establish a self-reliant posture within and contribute to the common prosperity of mankind without, by revitalizing the illustrious spirit of our forefathers. We do hereby state the proper course to follow and set it up as the aim of our education.

With a sincere mind and strong body, improving ourselves in learning and arts, developing the innate faculty of each of us, and overcoming the existing difficulties for the rapid progress of the nation, we will cultivate our creative power and pioneer spirit. We will give the foremost consideration to public good and order, set a value on efficiency and quality, and, inheriting the tradition of mutual assistance rooted in love and respect and faithfulness, will promote the spirit of fair and warm co-operative activities, and in that national prosperity is the ground for individual growth, we will do our best to fulfil the responsibility and obligation attendant upon our freedom and right, and encourage the willingness of the people to participate and serve in building the nation.

The love of country and fellow countrymen together with the firm belief in democracy against communism is the way for our survival and the basis for realizing the ideals of the free world. Looking forward to the future when we shall have the honourable fatherland unified for the everlasting good of posterity, we, as an industrious people with confidence and pride, pledge ourselves

to make new history with untiring effort and collective wisdom of the whole nation.

December 1968

Park Chung Hee
President of the Republic of Korea

The charter was prepared with the approval and co-operation of the public in general as well as executive and legislative branches of the Government. Actually, its significance lies in that it is not a mandatory code but that it embodies principles of national ethics based on a crystallization of the people's wishes.

Since the proclamation of the charter, the MOE has taken various measures to embody its spirit on an education front through various school levels. For instance, the MOE is trying to realize the basic idea of the charter through its general objectives for curriculum construction, and at a higher level of education the MOE incorporated a course of 'national ehtics' into the curriculum for the 1970 academic year. However, it is too early yet to tell if this course succeeds in the actual classroom situation because its success is ultimately dependent upon both the zeal and capability of teachers and the effectiveness of the educational process itself.

6. Establishment of the Korean Educational Development Institute

Among the many problems in Korean education are rapid expansion in the quantity, shortage of available resources, large class sizes, inadequate teacher education programmes and relatively low student achievements. Despite the recognition of modern educational thoughts and methods, still to be solved were problems of poor materials and equipments, fragmental rote learning and conventional methods of teaching. The Korean Educational Development Institute (KEDI) was established in August 1972 with the support of the MOE for the purpose of providing a nation-wide approach to a solution.

KEDI is an independent non-profit organization whose primary function is to undertake comprehensive and systematic educational reforms through a series of research and development programmes. It is funded for its first five years with a \$7.5 million USAID loan.

A comprehensive and systematic educational development project was originally conceived by the Council for Long-Range Comprehensive Educational Planning, and in 1970 the Council recommended the establishment of an agency to reform the curriculum, instruction and management of the elementary and middle schools in the country. From June to September 1970, the Florida State University Study Team led by Professor R.M. Morgan visited Korea to conduct a systems analysis study for educational change in Korea. In their report (Morgan Report) published in April 1971, the study team also recommended the establishment of a research and development institute which would undertake the reform of Korea's school curriculum and instructional systems. In November 1971 it was agreed between Korea and United States Governments: (i) to establish the Korean Educational Development Institute; (ii) to conduct research and development projects for the improvement of the over-all educational system; and (iii) to pioneer a loan project of \$6.5 million for the development, demonstration and diffusion of new educational systems. Thus, in December 1971, a task force to carry out the preparatory work and planning for the development of the new organization started working under the responsibility of the writer.

In March 1972, Minister Min of the MOE made a public announcement on the establishment of the KEDI, however, the project began to meet scepticism and criticism from a few of the conservatives in the government as well as in the educational circle. Considerable efforts have been made by Minister Min and the task force to overcome such obstructions to the building of the KEDI.

Part of the criticism was attributable to the substantial risk that the educational goals and directions would be forgotten in the race for instructional effectiveness; some scholars maintained that the new system would result in a 'dehumanization' of the teaching process. This assumption was based on one critique of modern civilization, that 'Humanity is forgotten in the modern world of science and technology'. It is agreed that the new system encountered risks in this sense, although it also offered great potentials for improving the effectiveness of teaching. KEDI leaders have answered the criticism by emphasizing the following arguments: (i) a primary characteristic of the new system will be a reduction in reliance upon the individual classroom teachers, this system will enable them to give more time to working closely with students than would be otherwise possible; and (ii) it is impossible to manage individual instruction effectively under the existing system.

in which a teacher is responsible for 60 to 80 students in a class. In this situation the instructional process is offered not for the individual, but for the class as an average. One of the KEDI tasks is to develop a new instructional system with heavier emphasis on programmed ITV and self-learning materials in the presentation aspects of teaching activities, where teacher-centred instruction is either not needed or less needed. This might be the only system which enables KEDI to emphasize the personal side of education.

After tortuous discussion, Minister Min and the task force in July 1972 succeeded in obtaining the approval of President Park to proceed, and the National Assembly promptly approved the use of an AID loan. In August 1972 the KEDI was chartered by the MOE as an autonomous judicial body with its Board of Trustees consisting of seven members from the MOE and senior Korean educators and chaired by the Minister of Education.

In terms of implementation the first five years are scheduled to be primarily devoted to research and development of the curriculum and teaching systems as well as demonstration of the new systems in elementary and middle schools. In addition, the KEDI serves as a comprehensive educational research and development centre for the MOE and deals with such matters as long-range educational planning, innovation diffusion and other policy studies.

The project for research and development of curriculum and instructional systems includes the following programmes:

(i) *Defining educational goals and objectives relevant to both national demands and socio-economic needs.* The over-all goals and objectives for elementary and middle schools will be carefully studied and stated so as to give clear sense of direction in evolving specific objectives and selecting learning experiences.

(ii) *Development of curriculum specifications.* Based on the educational goals and objectives, curricula for elementary and middle schools will be developed. The tasks include development of subject x levels objective matrix, curriculum plans and course syllabi. For the accomplishment of these tasks the following sub-tasks will be carried out:

(a) Specification of general goals and objectives in behavioural terms.

(b) Selection and organization of content corresponding with specific objectives.

(c) Identification of learning principles related to the organization of learning experiences.

(iii) *Development of curriculum materials.* This task is to design and produce instructional and learning materials essential in promoting teaching efficiency and effective student learning responses. The materials to be developed include textbooks; programmed instruction materials; educational television and audio-visual materials; student workbooks and other materials; manuals for teacher and student use; and diagnostic, formative and summative evaluation instruments. In developing the instructional programme these instructional resources will be designed to fit within a carefully developed teaching system, through systematic evaluation, to meet the needs of all children of varying aptitudes.

(iv) *Development of a new instructional and management system.* The task is to design appropriate learning conditions with specifications of alternative learning processes, student activities, teacher roles, and testing and evaluation work and the inter-relationships between these components.

(v) *Evaluation of curriculum materials and instructional systems.* Evaluation is an essential part in each phase of curriculum development. The effectiveness of the new curriculum materials and teaching systems will be evaluated in terms of achievement of educational goals and objectives.

(vi) *Training of teachers and administrators for educational changes.* To ensure proper implementation of the new instructional systems, adequate training of teachers and school administrators is a prerequisite. A more effective pre-service and in-service teacher education programme will be developed.

(vii) *Development and operation of educational TV system.* This task will be fully integrated with the tasks for curriculum development, production of other instructional materials, and design of an instructional system. The Institute will be equipped with adequate facilities and equipment to originate and produce TV projects.

The purpose of the project for research and development related to educational planning and management is to provide the foundations to support and facilitate work in curriculum and instructional improvement. The major activities included in this project are:

- (i) Studies on social and philosophical foundations of education.
- (ii) Studies on long-range educational planning including enrolment projections, teacher supply and demand, and requirements of financial resources.
- (iii) Studies on educational management systems.
- (iv) Studies on the diffusion processes of educational innovations and changes.
- (v) Studies on the educational policy-making process.
- (vi) Studies on non-formal education.

In December 1972, the KEDI had about 30 doctorates and holders of the masters degree on its research staff. By the end of 1973 when the Institute will be in full operation, it is planned to employ over 200 full-time staff members. In addition, scholars and experts in subject areas from colleges and universities, and elementary and secondary school teachers, will be called upon to participate in the project in such capacities as consultants, members of various committees, and part-time workers, etc. During the early stages of the development of the project, overseas training will also be provided for a limited number of staff members in various specialities.

7. Launching of the higher education reform project

The MOE began to tackle the problems in higher education with the enforcement of the preliminary college entrance examination system in 1968. Again, in 1971, the MOE launched an innovation project for an over-all reform of higher education.

In recognizing the need for a special effort in the planning of higher education, the MOE petitioned USAID/Korea for the services of a senior consultant who might be able to assist in the conduct of a broad-gauged study of higher education to identify major problems and help set priorities for the introduction of reforms. Dr. R.J. Keller of the University of Minnesota was appointed to serve in this capacity, and he arrived in Korea in September 1971. Dr. Keller has been assisted by five part-time professional staff,

1. This section is largely based on Dr. Keller's case study report 'The role of government in educational reform in higher education - the case of the Republic of Korea'. Prepared for the International Symposium on Innovation in Higher Education, 4-7 October 1972, co-sponsored by the Ministry of Education and Yonsei University, Seoul.

who carry out regular assignments in colleges and universities in the area and by part-time members of the MOE staff in the Bureau of Higher Education. Mr. Dai-soon Lee of that Bureau has served as project co-ordinator since December 1971.

The 38-member Higher Education Committee of the MOE Educational Policy Council works in an advisory capacity with staff members and provides over-all direction; it is chaired by Dr. Joong-hwi Kwon, former President of Seoul National University. Other members are drawn from administrators and faculties in higher education institutions throughout the country, members of the National Assembly, and editors of leading newspapers. The Committee has reviewed findings from the project and other proposals from the MOE or individual institutions and made recommendations to the project team, the Ministry, and other governmental agencies.

Current efforts by the Government in higher education reform are still in their early stages and it is possible to give only a progress report, both for the present higher education study and for the work of the Ministry of Education, with the counsel and assistance of the Education Policy Council. Therefore, as a final report is not yet available, the present paper concerns itself mainly with general procedures and processes as at October 1972, the interim steps taken to initiate early reforms and a forecast of possible actions for the 1973 academic year. In all these developments a foundation was prepared in regional planning seminars with broad participation. The emphasis was placed on the needs and capacity of higher education on a decentralized basis.

The first half of 1972 was chiefly devoted to the identification of major problems and issues of Korean higher education and an attempt to develop a consensus about possible reforms or strategies which might be useful in introducing improvements. Regional seminars were consequently held in each of the nine provinces and in two special cities.

This procedure reversed the usual approach to educational planning in a country such as Korea where educational functions are highly centralized in the national government. Because Seoul as the capital city also exerted such dominance over higher education, the ten seminars were scheduled so that each of the other provinces was completed before attention was given to institutions in Seoul. This strategy of obtaining a grassroots view on issues and problems was greatly appreciated by the outer provinces and yet was considered quite appropriate in Seoul also.

Assembled at these regional planning seminars were representatives from each institution of higher education located within the region, planning officers or other government officials from each province or special city and from boards of education, secondary school principals, and, when possible, local leaders with interests in education from industry, agriculture, or civic groups. Participants ranged from 25 at Jeju Province to more than 300 for Seoul City. Prepared papers in Korean were available for all participants, and totalled 71 separate papers constituting 1,409 pages. These papers provided a useful source of information on the needs, characteristics, and problems of higher education in the separate areas of the country and enabled participants to take part in intensive discussions on regional issues and their possible solutions. Each seminar was conducted on a two-day schedule which permitted sufficient time for critical review and discussion. The consultant, the counterpart professors, and the MOE co-ordinator participated in all the ten seminars, raising questions and contributing ideas with attention to both common and unique problems of the region.

A major staff task was the careful analysis and review of the prepared papers and seminar discussions, and the recommended solutions to problems. Initial responsibility was held by the Korean university professors on the project staff who prepared separate summaries for each regional seminar on the common problems discussed. At the end of the seminars, the ten summaries were compared in detail to establish a master listing of 'Problems needing further study and examination in seeking their solution' and a statement on 'Basic directions for reform in higher education.' These two documents provided the framework within which recommendations were made to the MOE for the early introduction of reforms and development of plans for dealing with problems and issues requiring further study. Five strategies for implementation emerged as a result of these deliberations:

- (i) The educational philosophy and functions of all higher education institutions must be established so that each type contributes to the development of the Republic as a whole as well as the regional society.
- (ii) The current uniform control system should be transformed to provide more flexible control, enhancing support for developing colleges and universities while simultaneously limiting operations for ineffective institutions.

(iii) Functional supplementary systems of higher education institutions are needed to strengthen individual institutions and programmes and to provide for their mutual support.

(iv) Co-operative systems must be established between colleges and universities in an area and the regional government, industries and society.

(v) Intensive government support is needed to stimulate rapid specialization and systemization of regional colleges and universities so that they provide for educational needs in the areas where they are located.

These basic directions reflected the findings that higher education institutions are currently making only limited contributions both within the region and the nation. They recognize that social and economic developments require more direct relationships between these institutions and their regional communities but have not found ways of meeting this need. Closer ties are also needed with secondary schools so that more attention can be given to programmes, concern for student guidance, and problems of transition from high school to college.

Several desirable solutions for problems and issues were identified in the regional seminars. Early action for some of these solutions was recommended as well as the strategy of introducing these reforms on a pilot basis within selected institutions rather than by widespread adoption. This approach would enable colleges and universities to develop their own plans for integrating the reforms, thus permitting several approaches to be explored. Colleges and universities were invited to participate as pilot institutions, and to submit applications outlining in some detail their plans for incorporating the following three early reforms into their operations beginning in 1973:

(i) Gradual transformation of the current student quotas by individual departments into student quotas assigned to broad fields, entire divisions, or colleges.

(ii) Readjustment of credit requirements for graduation from the current 160 credits to 140 credits.

(iii) Introduction and/or strengthening the use of the major and minor or double major system to secure greater breadth of background as preparation for job placement.

The selection of the participating pilot institutions was made from 15 applications by an Evaluation Committee appointed under the auspices of the Education Policy Council. This committee is expected

to monitor progress and appraise performance and the Ministry of Education has agreed to seek or provide necessary authority or exemption from regulations, administrative support, and research subsidies to implement reforms in the selected pilot institutions while recognizing college autonomy in establishing programmes of general education, requirements for specific majors and minors, student guidance programmes, instructional methods and materials, etc. At the same time, efforts are being made in all institutions to pay more attention to articulation problems and especially to introduce ways of reflecting high school achievement in college admission procedures. The latter constitutes a special problem pending normalization of secondary schools in the Republic.

The introduction and strengthening of co-operative relationships between institutions of higher education and their community is viewed as essential not only for the improvement of the institutions but also for social and economic development of the region. The Ministry of Education led the move to promote such relationships and encouraged regional government agencies and industrial establishments to seek advice and assistance from their local colleges and universities.

Consulting bodies are being organized in each region or province consisting of representatives from local higher education institutions, provincial or special city governments, local industrial circles and secondary schools; with the president of one of the colleges or universities as chairman. The major functions include using the agency to stimulate understanding of regional needs and problems, to promote mutual co-operation and to extend employment opportunities for graduates in the area. Local academics can be identified with their various specialities and their services procured when needed as consultants or research workers on local problems.

The strengthening of regional colleges in Korea through specialization to reflect educational needs in the areas in which they are located is one of the major ingredients in higher educational reform. Efforts must be made to prevent the concentration of higher education in Seoul by enhancing the number and quality of colleges and universities in the outer provinces. When coupled with unique role differentiation for each type of higher education institution and the establishment of co-operative systems among colleges, this approach should enable both the Korean government and the institutions to make effective use of their limited educational funds.

Such a plan also permits provincial universities to provide trained manpower to meet local requirements and assists in the dispersal of manpower resources rather than their concentration in Seoul.

The regional seminars provided basic information which could be used in establishing regional specialities. To this source could be added existing studies or plans completed by other ministries including; the Comprehensive Development Plan for National Land prepared by the Ministry of Agriculture and Forestry's analysis of Chief Producing Districts of Agricultural Products; the Ministry of Science and Technology's Third Five-Year Manpower Development Plan; and the Ministry of Commerce and Industry's analysis of Major Industries and Enterprises by Province and Special City. This information has been useful in developing preliminary plans for institutional specialization when evaluated in terms of institutional requests for support of programmes and facilities.

Institutional requirements to support regional specialities are currently being analysed by the Ministry of Education. Separate plans have been prepared which emphasize the specialization and systematizing of agricultural colleges and engineering colleges. Specialization is approached through intensive development of existing institutions and departments which support regional needs and specialities, whilst consolidation of overlapping departments and internal readjustments are expected to be of great help in allowing for expansion or reduction in programmes.

The Ministry of Education expects to provide help for institutions or departments designated for specialization in variety of ways:

- (i) Strengthening support for educational facilities.
- (ii) Reinforced student scholarship fund support.
- (iii) Preferential allocation of academic research subsidies.
- (iv) Preferential support to faculty recruitment and research activities which reflect regional needs for specialization.
- (v) Priority for modernization and innovation of educational programmes or teaching methods.
- (vi) Readjustment of student quotas to reflect regional needs for specialities.

The present study of higher education is still in the middle stage of development. Some positive actions have been taken to emphasize needed reforms in higher education, but because the field of higher education is so broad and complex, much remains to be done before the project can be said to be complete.

8. Promulgation of the Free School Day

In October 1972, the MOE directed all elementary schools in the country to set aside one day of the six school days of each week as a 'Free School Day' to allow school children to be engaged in field studies, practical arts, sports and hobbies. The intention was 'to liberate the children, who should learn and grow up in a cheerful and pleasant environment but, in fact, are severely bothered by the heavy pressure from monotonous classroom instruction'. Elementary school children were liberated from the entrance examination pressure by the MOE decision to abolish entrance examination for middle schools in 1968; however, the oppressive atmosphere from the obsolete instructional pattern was still to be seen in the classroom situation.

The idea of a Free School Day grew in a few pioneering schools in Seoul and its vicinity — Hanyang and Myongji in Seoul, and Suwon Sowha in Kyunggi Province. In 1969, Hanyang elementary school termed each Saturday its 'pleasant day,' the antecedent of the Free School Day. Meanwhile, Myongji school practised the idea of the Free School Day by:

- (i) Preparatory study, 1968.
- (ii) Initiation of No-Satchel Day (every Saturday), 1969.
- (iii) Institution of Artistic Activity Day (every Saturday), 1970
- (iv) Institution of Free School Day for field study, community and group activities, sports, artistic activities, hobbies, and recreation, etc., 1971.

A survey in Myongji School, showed positive reactions not only from children (96 per cent) but also from teachers (100 per cent) and parents (84 per cent). In addition, Suwon Sowha school, a private elementary school, also prepared a plan for the Free School Day in 1971, and began its operation in September 1972.

The pilot programmes in these schools gave considerable impetus to the MOE decision in October to enforce the Free School Day in all elementary schools throughout the country. According to MOE guidelines, each school must reserve one day of the six as the Free School Day in order to provide school children with the 'education for the whole man' through such activities as: (i) hobbies, (ii) sports, (iii) creative work and practical skills, (iv) 'new community education', and (v) field study. Four hours of one school day each week were also to be allotted for this programme and the MOE also instructed that 70 of the 140 hours reserved for

the programme in one school year should be assigned for extra-curricular activities, 35 hours for physical education, and 35 hours for other subjects. The MOE's programme was designed:

- (i) to offer school children 'education for the whole man' and to emphasize physical and psychological development as well as intellectual growth;
- (ii) to promote creativity of educators by way of designing various activities of bigger educative values;
- (iii) to enhance instructional effectiveness;
- (iv) to cultivate understanding of and participation in community development;
- (v) ~~to~~ foster good human relations in school organization.

Most schools in both metropolitan and rural areas met with considerable difficulties in the programme's implementation through lack of materials and facilities. In Seoul, only five schools had their own auditorium, while not one school of the 200 public schools had special rooms for music or art education. Elementary schools in Seoul needed approximately 2,000 buses for a day's field trip each week, but no public school owned its own school bus. Meanwhile, in rural areas the Free School Day tends to be misunderstood as a 'play day' because the teachers find it difficult to carry out substantial programmes without resources and it appears to be necessary for its success to obtain financial support from the government.

The programme appears to be fairly successful in medium and small-sized cities. In these areas, appropriate facilities for field studies are usually available within walking distances, and in this respect it is considered a prerequisite for the programme's successful implementation to prepare special plans which are pertinent to conditions in each community.

It is premature to comment on the future development, although it is anticipated that the idea will later be adopted in the middle schools. It is also predictable that this programme will become a stepping stone for the beginning of the five-day week school system.

II. Innovations at the institutional level

1. *Mastery Learning Project (ML)*¹

The Mastery Learning Programmes were carried out from 1969-71 by the Korean Institute for Research in the Behavioural Sciences (KIRBS)² and the Educational Research Centre (ERC)³ of Seoul National University. The purposes were to formulate and test theories of instruction and to suggest practical strategies and materials for the improvement of school learning.

This project started with the assumption that the expanding educational quantity is not necessarily antithetical to the improving educational quality, and that ways can be found to solve both needs at the same time. The educational system throughout the world, and particularly in Korea, needs a thorough re-examination of its conventional premises, assumptions and myths, not only because of the present critical problems in education but also because of the course education will be forced to take in the society of the future.

This re-examination will be worthwhile because we can now solve educational problems through technological means that incorporate the knowledge and principles of natural, behavioural and managerial sciences. The mastery learning strategy, in this sense, belongs to one such 'educational technology' in that it applies the principles of behavioural sciences.

A conventional educational myth which the mastery learning project intends to challenge is the assumption of normal distribution

1. In the preparation of this part, the writer has drawn heavily upon an unpublished report: Increase in use of modern equipment and new teaching methods to improve the efficiency of education. Korean report on education (Strategy for International Development) Ministry of Education, July 1972 [mimeographed].
2. See: *Mastery Learning in the middle school* (final report on Mastery Learning Project, March-August 1970), KIRBS-USAID/K, November 1970.
3. See: *Interaction of different studies on the Mastery Learning Project* (final report on Mastery Learning Programme, April-November 1971), ERC/SNU-USAID/K, November 1971.

of student achievement. That is, by the end of a unit of education, the levels of achievement of students are expected to be distributed normally - some high (As), some low (Ds, Fs), and a majority medium (Bs, Cs). If education is to be likened to a production line where quality control is important, this control policy is impossible to accept.

The middle school entrance examinations were abolished in Korea in 1969, and as a consequence the middle schools received a larger number and a more heterogeneous group of students than before. The mastery learning programme intends to be of use to teachers in this situation. It is felt, too, that instructional theory is still very immature and needs vigorous and rigorous exploration, formulation and experimentation. To meet these ends the mastery learning programme was launched.

The terms, the concepts and the major theoretical suggestions of 'mastery learning' in these projects have been borrowed from Dr. B.S. Bloom who derives a mastery learning strategy from the models of school learning developed by Carroll and supported by Morrison, Bruner, Skinner, Suppes, Goodlad and Anderson, and Glaser.

The major variables in the mastery learning strategies were taken from Carroll's model which states that: 'the learner will succeed in learning a given task to the extent that he spends the amount of time that he needs to learn the task.' The formula becomes:

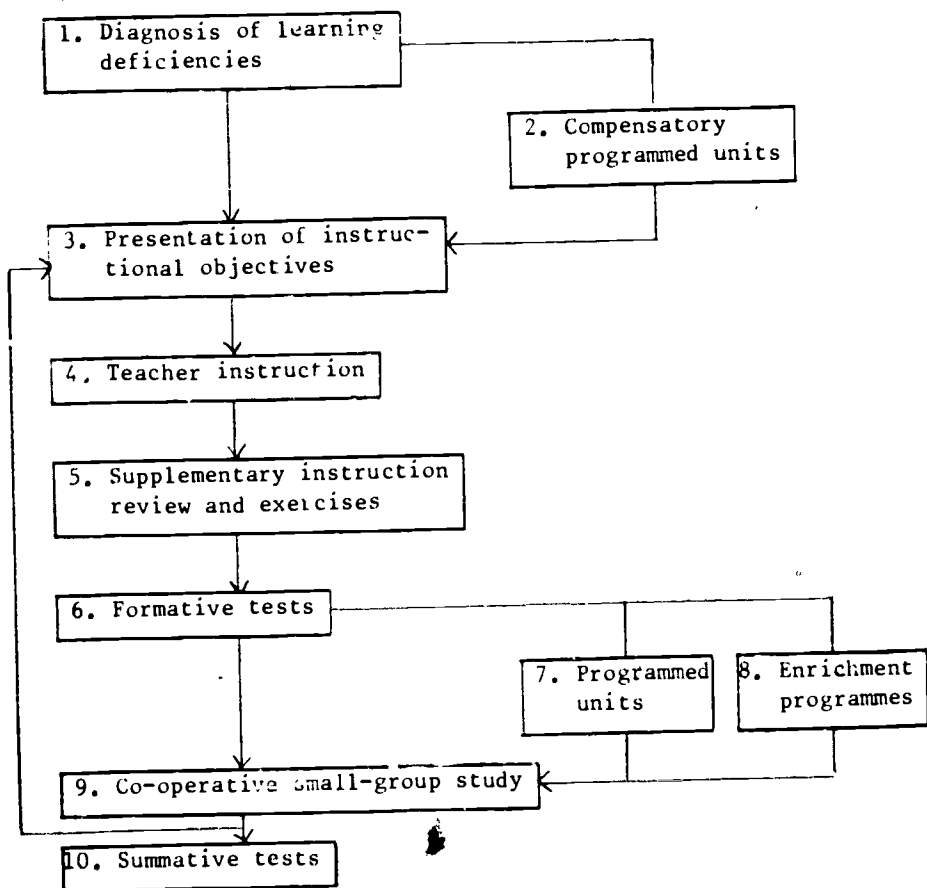
$$\text{Degree of Learning} = F \left(\frac{\text{Time actually spent}}{\text{Time needed}} \right)$$

Illustratively, if a student needs 10 hours to learn a task and if he actually spends 8 hours attentively, he learns only 80 per cent of the task. If a strategy is developed whereby 'the time needed' can be shortened and 'the time actually spent' can be lengthened for individual students, mastery learning should become possible. There are three factors that determine the time needed in learning: (i) aptitude for learning the given task, (ii) ability to understand instruction, and (iii) quality of instruction. There are two other factors that determine the time actually and attentively spent in learning: (iv) time allowed for learning - 'opportunity,' and (v) time willingly spent in learning - 'perseverance'. By effectively improving these five factors the degree of learning can be enhanced to a level of mastery.

Both Carroll's and Bloom's models are still theoretical and general and require practical 'translation' into instructional

strategy, therefore, one of these project tasks has been to formulate a modified model of mastery learning which can fully recognize and take into consideration the specific characteristics and needs of our classrooms. The instructional strategy had to meet the following practical conditions: (i) it should be workable in a classroom situation with a large and heterogeneous group of students; (ii) it should not presuppose a large-scale retraining of teachers; (iii) it should be adaptable to a wide range of school situations, and should not require set patterns of personnel organization, facilities and instructional schedules and materials; and (iv) it should be of assistance to the classroom teacher in such a way that it incorporates the principles of modern instructional technology.

The major principles of instruction for mastery learning are:



The mastery learning programme does not presuppose a great change in the teacher though a certain amount of change is both inevitable and essential; however it attempts an extensive change in the instructional logistics that the teacher and the learner can use. The major effort has been devoted to developing instructional aids which teachers and students can use in the instructional process that roughly follows the mastery learning model. For every course of instruction, the following instructional aids or materials have been developed for the teacher and students:

- (i) Teacher's manual.
- (ii) Student guide.
- (iii) Diagnostic tests.
- (iv) Compensatory programme.
- (v) Teacher's guide to instruction.
- (vi) Exercises.
- (vii) Formative tests.
- (viii) Learning programmes.
- (ix) Enrichment programmes.
- (x) Miscellaneous materials.
- (xi) Summative tests.

The KIRBS has studied three kinds of consecutive mastery learning programmes and an additional one that incorporates the theoretical strategy and utilizes various kinds of instructional aids. Encouraged by the results, the experiment on mastery learning was expanded to the second and third phases of study. Nine middle schools with 5,800 seventh graders in Seoul participated in the second phase in subjects which included mathematics and English for a period of eight weeks beginning in October 1969.

The instructional strategies were much the same as those used in the pilot study, except that a diagnostic test of learning deficiencies and the compensatory programmed units were administered prior to the regular instruction. The results of the summative tests are shown below:

Mastery learning of nine middle schools

Subject	Classification	School										Total
		A	B	C	D	E	F	G	H	I		
English	Mastery (%)	92	52	74	87	48	69	66	72	87	72	
	Non-mastery (%)	8	48	26	13	52	31	34	28	13	28	
Mathematics	Mastery (%)	72	58	76	64	45	37	70	63	64	61	
	Non-mastery (%)	28	42	24	36	55	63	30	37	36	39	

The degree of mastery learning varied widely among the nine schools. Fluctuations in the degree of mastery learning appear to be caused partly by: (i) school climate for academic learning, (ii) co-operation of teachers and participating schools, (iii) inefficiency in the utilization and administration of instructional materials, and (iv) apparent teacher failure in following the directions. In total, an average of 72 per cent mastery in English and 61 per cent in mathematics are fairly satisfactory, but on the whole the results, though still very positive, are not as pronounced as in the strategy planned.

The summative tests themselves may have been too difficult, especially the tests in mathematics and sciences. It has been the practice to construct the items in the summative tests with reference to the criterion performance rather than the average performance, and to have the consent from the subject matter specialists on the criterion nature of the test items. Therefore, the summative tests in the past have been judged as more difficult than ordinary tests both by specialists and by teachers.

The more likely interpretation is that inappropriate applications of the programme and the materials caused the partial success. There are several ways in which the right application of the programme may have been violated. First, in some schools, the teachers did not understand thoroughly the mastery learning strategy, which indicates a need for a longer and more effective teacher orientation seminar. Secondly, most of the schools joined the programme a little after the beginning of the first semester, therefore, the materials arrived late, at an inappropriate time. Thirdly, even when the materials were sent earlier, some teachers did not use them at the appropriate time. Lastly, and most critically, teachers in some schools obviously did not feel the necessary sense of involvement and enthusiasm in the mastery learning programme.

This project on the whole has been fairly successful in the Seoul region, however, the critical problem of how to expand the programme to all schools throughout the country still remains to be solved.

2. Project for Instructional Effectiveness (PIE)

The goal-orientated project for instructional effectiveness which has been carried out by the Central Education Research Institute (CERI) from September 1970, aims at increasing the effectiveness of elementary and middle schools by providing teachers with instructional and evaluating materials. The project team insists that it:

reduces teachers' work imposed by reckless activities in the conventional teaching process; puts instructional innovations into practice; improves the method of evaluating students' achievements; and specifies educational goals into behavioural terms to be used in classroom teaching. Its more specific objectives are:

- (i) To define educational purposes into specific behavioural performances which are meaningful for teachers and students and which have their own goal setting.
- (ii) To assist teachers in selecting useful instructional methods and materials by showing them learning activities for the accomplishment of instructional objectives.
- (iii) To develop tests for evaluating instruction in terms of student performance.

An accurate evaluation of the effectiveness of the project has yet to be made, although over one hundred elementary and middle schools have so far participated. On the basis of opinions of teachers and administrators, however, and on some achievement test data, the project team believes the programme is successful in the following respects:

- (i) It assists teachers to understand educational goals and a goal-orientated instruction.
- (ii) It stimulates teachers to be concerned with improvement of instructional methods and studies of subject matters.
- (iii) It guides teachers to understand the importance of instructional evaluation and to use it in an appropriate manner.
- (iv) It keeps teachers free from extra teaching loads by providing them with instructional and evaluation materials.

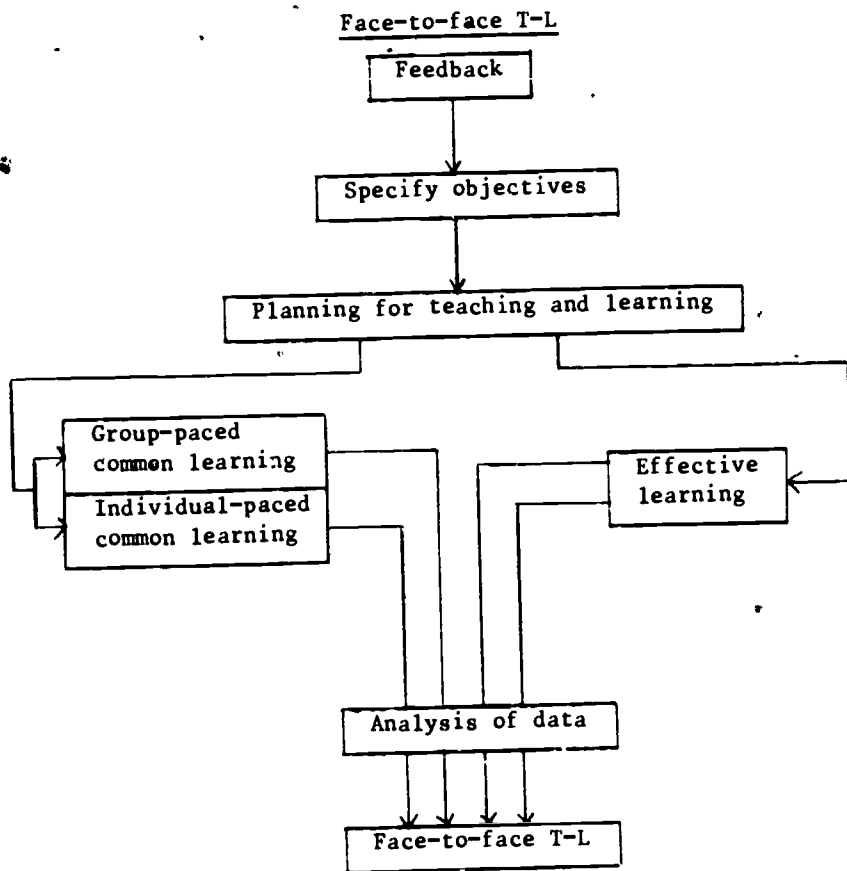
3. Education Development Project (EDP)¹

The Education Development Project is a long-term over-all education research and development project which is being carried out by the Yonsei University Institute of Education Research. The purpose of the project is to promote the development of Korean education and to provide solutions to current educational problems. At present (1970-74), the EDP is undertaking empirical studies and demonstrations through pilot programmes.

With MOE support and encouragement for its innovative spirit, the project has been enthusiastically accepted by many schools in

1. This section is largely based on: Oh, Ki-Hyong, FDP Teaching Learning Model: a tested model of re-organized structure of teaching and learning — an innovation in Korean Education, Institute of Education Research, Yonsei University, Seoul, 1970.

both urban and rural areas. Professor Oh, the project director, presents the EDP model schematically as follows:



The schematic presentation is explained according to the flow of teaching and learning, which actually takes place in a spiral order. In fact, face-to-face teaching and learning begin with the whole flow of teaching and learning. Consequently, as soon as the class is prepared for face-to-face teaching and learning, the whole process of teaching and learning becomes animated by fully motivated teachers and learners. Intimate human interaction in this process prepares the way for clarity in orientation towards the task of learning to be accomplished.

Materials and equipments specially organized into a new structure are among the many new elements employed in the EDP Teaching-Learning model. The following are major items:

- (i) Questionnaire.
- (ii) Audio-visual aids.
- (iii) Individual-paced common learning materials.
- (iv) Elective learning materials.
- (v) Recording forms.

As grassroots experiences accumulate they can become a realistic ground for improving classrooms, promotion systems, teachers organizations, learners' grouping, and budgetting procedures. Improved conditions can be achieved by: (i) bringing in new and usable educational practices from other parts of the world, especially from advanced countries; (ii) allowing the utilization of grassroots experiences in educational development; (iii) going through the proper stages of pioneering experiences and continuing with empirical research, and (iv) allowing for continuous creative improvement and administration at individual school level, as well as at the national level.

On the basis of educational developments during the past several years, as well as an examination of the EDP's projected four-year plan, it is expected that:

- (i) The model will be considerably refined and elaborated (a) through increasing pioneering practices in more subject areas, (b) evaluation of the processes and their outcomes, (c) clarification of problems by experience in practice, and (d) considering new theories, ideas, and experiences from both overseas and within the country.
- (ii) The model will develop through further research in education.
- (iii) The model will make a contribution to the basic solution to educational problems, and the facilitation of educational development by (a) strengthening the pioneering co-operation agencies -

Education Research Project, Education Development Service Centre, and Principals Committee for Education Development, and (b) broadening co-operation with educators and educational institutions especially with regard to research and development institutions in other countries, and initiating regional co-operation projects.

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Questionnaire (12)

To develop the series further, it would be helpful if readers could record their impressions and inform the IBE. (Please write 'yes' or 'no' in the space following each question. Further comments may be written on the back of this sheet.)

1. Do you find the author's analysis useful for your own work? ☐ in particular, is it:
 - an adequate survey of the field? ☐
 - a basis for further discussion and study? ☐
 - too abstract to be useful? ☐

2. With regard to the sources cited, could you indicate any recent documents of a similar type which have been overlooked?

3. Can you indicate any cases of innovation in your own country (or field of specialization) which you feel might have interest for other countries if adequately written up? Please name the person or institution able to provide further information about the project.

Please indicate your name and address and return this questionnaire to: the International Bureau of Education, Palais Wilson, 1211 Geneva 14, Switzerland or, when applicable, to your Unesco Regional Office for Education (i.e. Bangkok, Dakar or Santiago).